

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device, comprising:
a semiconductor substrate;
a gate insulation film formed on one major surface of said semiconductor substrate and ~~containing~~ including titanium oxide as a primary constituent material; and
a gate electrode film formed in contact with said gate insulation film, said gate electrode film having a dual function of being an electrode and a diffusion barrier, said gate electrode film being configured to minimize diffusion of conductive elements into said gate insulation film to reduce a current leakage via the gate insulation film, and containing said gate electrode film including ruthenium oxide or alternatively iridium oxide as a primary constituent material.
2. (Currently Amended) A semiconductor device according to claim 1,
wherein film thickness of said gate insulation film and ~~said gate electrode film is~~ greater than about 0.9 nm inclusive and less than about 3 nm,
wherein said ruthenium oxide or iridium oxide being at least 50 percent in composition of said gate electrode film.
3. (Original) A semiconductor device according to claim 1,
wherein said titanium oxide is in the form of a crystal of rutile structure.
4. (Currently Amended) A semiconductor device, comprising:
a semiconductor substrate;
a gate ~~insulation oxide~~ film formed on one major surface of said semiconductor substrate, said gate oxide film being titanium oxide and having a given crystal structure and containing titanium oxide as a primary constituent material; and
a gate electrode film ~~formed in contact with~~ formed over said gate insulation film,
said

wherein said gate electrode film is constituted by a laminated film which is composed of ~~including a~~ an electrically conductive oxide film ~~conductive oxide layer and a metal layer, said conductive oxide layer being provided between said gate oxide film and said metal layer, containing ruthenium oxide or alternatively iridium oxide as a primary constituent material and an electrically conductive film containing a metal as a primary constituent material.~~

5. (Currently Amended) A semiconductor device according to claim 4,

wherein said conductive oxide layer includes ruthenium oxide or iridium oxide,
wherein film thickness of said gate ~~insulation oxide~~ film and said electrically conductive oxide film is greater than about 0.9 nm and less than about 2 nm,
wherein thickness of said gate electrode is at least 0.9 nm inclusive.

6. (Currently Amended) A semiconductor device according to claim 4,

wherein said titanium oxide is ~~in the form of a crystal of~~ has a rutile crystal structure.

7. (Currently Amended) A semiconductor device according to claim 5,

wherein said metal layer includes ~~is~~ ruthenium or alternatively iridium.

8. (Currently Amended) A semiconductor device, comprising:

a semiconductor substrate;

a titanium oxide gate insulation film formed on one major surface of said semiconductor substrate and ~~containing titanium oxide as a primary constituent material;~~

a gate electrode film formed in contact with said gate insulation film and constituted by a laminated film which is composed of an electrically including conductive oxide film ~~containing ruthenium oxide or alternatively iridium oxide as a primary constituent material and an electrically conductive film containing a metal as a primary constituent material~~ a metal film, said conductive oxide film being in contact with said gate oxide and configured to serve as a diffusion barrier to prevent diffusion of an element into said titanium oxide to reduce a current leakage via said titanium oxide film;

a first capacitor electrode formed on ~~the~~ said one major surface of said semiconductor substrate;
a capacitor insulation film formed in contact with said first capacitor electrode and exhibiting a high dielectric constant or ~~alternatively~~ ferroelectricity; and
a second capacitor electrode formed in contact with said capacitor insulation film.

9. (Currently Amended) A semiconductor device according to claim 8,
wherein ~~film~~ thickness of said insulation film is at least about 0.9 nm and
thickness of said electrically-conductive oxide film is greater than at least about 0.9 nm-inclusive.

10. (Currently Amended) A semiconductor device according to claim 8,
wherein said titanium oxide ~~is in the form of a crystal of~~ has a rutile structure or
anatase structure.

11. (Currently Amended) A semiconductor device according to claim 8,
wherein said metal film is includes ruthenium or ~~alternatively~~ iridium, said
ruthenium or iridium comprising at least 50 percent of said metal film in composition.

12. (Currently Amended) A semiconductor device, comprising:
a semiconductor substrate;
a gate insulation ~~film-structure composed including~~ of a first gate insulation film
formed ~~on over one major surface of said semiconductor substrate and containing including~~
~~titanium-silicon oxide and or~~ titanium silicate as primary constituent materials and a second gate
insulation film formed ~~on over~~ said first gate insulation film one major surface and containing
and including titanium oxide as a primary constituent material; and
a gate electrode film formed in contact with said gate insulation ~~film-structure~~ and
~~containing including~~ ruthenium oxide or ~~alternatively~~ iridium oxide as a primary constituent
material, said gate electrode film being configured to prevent diffusion of a conductive element
into said gate insulation structure.

13. (Currently Amended) A semiconductor device, comprising:

a semiconductor substrate;

a gate insulation ~~film structure including composed of~~ a first gate insulation film formed on one major surface of said semiconductor substrate and containing titanium oxide and titanium silicate as primary constituent materials and a second gate insulation film formed on said one major surface and containing titanium oxide of a given crystal structure as a primary constituent material; and

a gate electrode ~~composed of including~~ a first gate electrode film formed in contact with said second gate insulation film and containing ruthenium oxide or alternatively iridium oxide as a primary constituent material and a second gate electrode film formed in contact with said gate insulation film and containing one selected from a group consisting of ruthenium, iridium, platinum, tungsten and molybdenum,

wherein said given crystal structure of said titanium oxide and said first gate electrode film configured to inhibit diffusion of an element into said gate insulation structure.
as a primary constituent material.

14. Withdrawn.

15. Withdrawn.
